

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1.-7. (CANCELLED)

8. (NEW) An information recording and reproduction apparatus which records and reproduces information by irradiating a laser light onto a recording medium, comprising:

    a light source which emits the laser light;

    a driving signal-generating unit which generates a laser driving signal having a recording power level corresponding to recording data or a reproduction power level;

    a high frequency superimposing unit which superimposes a high frequency signal on the laser driving signal; and

    a control unit which drives the light source by the laser driving signal on which the high frequency signal is superimposed to perform recording and reproduction,

    wherein a level of the high frequency signal at a time of recording is different from the level of the high frequency signal at a time of reproduction, and

    wherein the high frequency superimposing unit changes the level of the high frequency signal at a timing a predetermined

time period before transition of the control unit from a reproduction state to a recording state.

9. (NEW) The information recording and reproduction apparatus according to claim 1, wherein the level of the high frequency signal at the time of the recording is smaller than the level of the high frequency signal at the time of the reproduction.

10. (NEW) The information recording and reproduction apparatus according to claim 8, wherein the level of the high frequency signal at the time of the reproduction is equal to or larger than 5mWpp when the recording medium is a DVD, and the level of the high frequency signal at the time of the recording is equal to or smaller than 4mWpp when the recording medium is a DVD-R/RW.

11. (NEW) The information recording and reproduction apparatus according to claim 8, wherein the predetermined time period is longer than a time period necessary for a transient response of a waveform of the laser light by change of the level of the high frequency signal to stabilize.

12. (NEW) An information recording and reproduction method which records and reproduces information by irradiating a laser light onto a recording medium, comprising:

a driving signal generating process which generates a laser driving signal having a recording power level corresponding to recording data or a reproduction power level;

a high frequency superimposing process which superimposes a high frequency signal on the laser driving signal; and

a control process which drives a light source by the laser driving signal on which the high frequency signal is superimposed to perform recording and reproduction,

wherein a level of the high frequency signal at a time of recording is different from the level of the high frequency signal at a time of reproduction, and

wherein the high frequency superimposing process changes the level of the high frequency signal at a timing a predetermined time period before transition of the control process from a reproduction state to a recording state.

13. (NEW) A computer program product in a computer-readable medium executed in an information recording and reproduction apparatus to record and reproduce information by irradiating a laser light onto a recording medium, making the information recording and reproduction apparatus function as:

a driving signal generating unit which generates a laser driving signal having a recording power level corresponding to recording data or a reproduction power level;

a high frequency superimposing unit which superimposes a high frequency signal on the laser driving signal; and

a control unit which drives a light source by the laser driving signal on which the high frequency signal is superimposed to perform recording and reproduction,

wherein a level of the high frequency signal at a time of recording is different from the level of the high frequency signal at a time of reproduction, and

wherein the high frequency superimposing unit changes the level of the high frequency signal at a timing a predetermined time period before transition of the control unit from a reproduction state to a recording state.